

(FILE 'HOME' ENTERED AT 09:10:37 ON 26 JAN 2004)

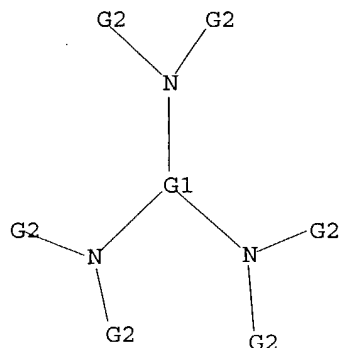
FILE 'REGISTRY' ENTERED AT 09:10:51 ON 26 JAN 2004

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 Al,La,Y

G2 Cb,Ak,H,CF3,CCl3,CBr3

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 09:11:18 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 697 TO ITERATE

100.0% PROCESSED 697 ITERATIONS

10 ANSWERS

SEARCH TIME: 00.00.02

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 12357 TO 15523

PROJECTED ANSWERS: 11 TO 389

L2 10 SEA SSS SAM L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.42

0.63

FILE 'CAPLUS' ENTERED AT 09:11:27 ON 26 JAN 2004

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FILE COVERS 1907 - 26 Jan 2004 VOL 140 ISS 5  
FILE LAST UPDATED: 23 Jan 2004 (20040123/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> s l2

L3 11 L2

=> d 1-11 bib abs

L3 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:169460 CAPLUS

DN 134:363249

TI Electronic property and reactivity of (hydroperoxo)metal compounds

AU Nishida, Yuzo; Nishino, Satoshi

CS Department of Chemistry, Faculty of Science, Yamagata University,  
Yamagata, 990-8560, Japan

SO Zeitschrift fuer Naturforschung, C: Journal of Biosciences (2001),  
56(1/2), 144-153

CODEN: ZNCBDA; ISSN: 0939-5075

PB Verlag der Zeitschrift fuer Naturforschung

DT Journal

LA English

AB DFT calcns. were done for the (hydroperoxo)metal complexes with  
.eta.1-coordination mode, where metal ions are Fe(III), Al(III), Cu(II)  
and Zn(II). Results shows that (1) the electron d. at the two oxygen  
atoms of the hydroperoxide ion is highly dependent on the angle O-O-H in  
M-OOH species and the difference in electron d. between the two oxygen  
atoms reaches a max. at the angle O-O-H = 180.degree., (2) total electron  
d. at the two oxygen atoms of the peroxide ion increases by approach of  
methane to the (hydroperoxo)metal species in the cases of Fe(III) and  
Cu(II); on the other hand, significant decrease of the electron d. on  
peroxide oxygen atoms was obsd. for the cases of Al(III) and Zn(II)  
compds. These findings suggest that the (hydroperoxo)metal species acts  
as an electrophile in the former cases (M = Fe(III), Cu(II)) and as a  
nucleophile for the latter two compds. (M = Zn(II), Al(III)). The  
electrophilicity obsd. for the Fe(III) and Cu(II) complexes is attributed  
to the presence of unoccupied- or half-filled d-orbitals interacting with  
the hydroperoxide ion. (3) Two oxygen atoms of the (hydroperoxo)-compds.  
of Fe(III) and Cu(II) complexes exhibit quite different reactivity toward  
the substrate, such as methane. When methane approaches the oxygen atom  
which is coordinated to a metal ion, a strong decrease of electron d. at  
the methane carbon atom occurs with concomitant increase of electron d. at  
the peroxide oxygen atoms inducing its heterolytic O-O cleavage. When  
methane approaches the terminal oxygen atom, an oxidative coupling  
reaction occurs between peroxide ion and methane; at first a nucleophilic  
attach by the terminal electron-rich oxygen atom occurs at the carbon atom  
to induce C-O bond formation, and a subsequent oxidative electron transfer  
proceeds from substrate to the metal-peroxide species yielding CH<sub>3</sub>-OOH,  
CH<sub>3</sub>OH, or other oxidized products. These results clearly demonstrate that  
the (hydroperoxo)-metal compd. itself is a rather stable compd., and  
activation of the peroxide ion is induced by interaction with the  
substrate, and the products obtained by the oxygenation reaction are  
dependent on the chem. property of the substrate, redox property of a  
metal ion, and stability of the compds. formed in the intermediate  
process.

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:814248 CAPLUS  
 DN 130:147806  
 TI Synthesis and Structural Characterization of Some Monomeric Group 13 Amides  
 AU Silverman, Joel S.; Carmalt, Claire J.; Cowley, Alan H.; Culp, Robert D.; Jones, Richard A.; McBurnett, Brian G.  
 CS Department of Chemistry Biochemistry, The University of Texas at Austin, Austin, TX, 78712, USA  
 SO Inorganic Chemistry (1999), 38(2), 296-300  
 CODEN: INOCAJ; ISSN: 0020-1669  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB Three monomeric, base-free tris(primary amido) compds.  $E[N(H)Mes^*]_3$  (1, E = Al; 2, E = Ga; 3, E = In; Mes\* = 2,4,6-tri-tert-butylphenyl) were synthesized via the salt elimination reaction of  $Mes^*N(H)Li$  with  $ECl_3$ . The singly base-stabilized tris(primary amido) derivs.,  $[E\{N(H)Dipp\}_3(py)]$  (7, E = Al; 8, E = Ga; Dipp = 2,6-diisopropylphenyl), were prep'd. via the amine elimination reaction of  $H_2NDipp$  with  $[E(NMe_2)_3]_2$ .  $[In\{N(H)Dipp\}_3(py)_2]$  (9), which features two coordinated bases, was prep'd. by treatment of  $DippN(H)Li$  with  $InCl_3$  followed by pyridine. The x-ray crystal structures of 3, 8, and 9 were det'd.  
 RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1990:451468 CAPLUS  
 DN 113:51468  
 TI Preparation and crystal structure of tetraamidoaluminates of rubidium and cesium,  $Rb[Al(NH_2)_4]$  and  $Cs[Al(NH_2)_4]$   
 AU Jacobs, H.; Jaenichen, K.  
 CS Fachbereich Chem., Univ. Dortmund, Dortmund, D-4600/50, Germany  
 SO Journal of the Less-Common Metals (1990), 159, 315-25  
 CODEN: JCOMAH; ISSN: 0022-5088  
 DT Journal  
 LA German  
 AB By the reaction of the metals with  $NH_3$  in an autoclave, crystals of  $RbAl(NH_2)_4$  dimorphs and  $CsAl(NH_2)_4$  are obtained at 120-200.degree. and 150-200.degree. and  $NH_3$  pressure of 0.8-1.2 kbar within 20 d of 1.2-6 kbar for 15 d, resp. cyano silver complex. X-ray single-crystal investigations gave isotopic structures; microcryst.  $RbAl(NH_2)_4$  shows a monoclinic distortion. Single crystal of  $RbAl(NH_2)_4$  and  $CsAl(NH_2)_4$  are tetragonal,  $P4/n$ ,  $Z = 2$ , whereas powd.  $RbAl(NH_2)_4$  is monoclinic,  $P2/c$ ,  $Z = 4$ . The structures contain isolated  $Al(NH_2)_4$ --tetrahedra whereas metal and amide ions show common distorted cubic close-packing.

L3 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1977:188803 CAPLUS  
 DN 86:188803  
 TI Asymmetric reduction with chiral reagents from lithium aluminum hydride and (S)-(-)-N-(o-substituted benzyl)-.alpha.-phenylethylamines  
 AU Yamaguchi, Shozo; Yasuhara, Fujiko; Kabuto, Kuninobu  
 CS Coll. Gen. Educ., Tohoku Univ., Sendai, Japan  
 SO Journal of Organic Chemistry (1977), 42(9), 1578-81  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DT Journal  
 LA English  
 AB Asymmetric redn. of carbonyl compds. with chiral hydride reagents modified by (S)-(-)-N-RCH=NCHMePh (R = Ph, 2-MeC6H4, 2-Me2NC6H4, 2-MeOC6H4, 2-MeSC6H4, 2,4,6-Me3C6H2) in PhMe was exam'd. to clarify the role of the functional group in the amine ligands on the stereoselectivity. Of the functional groups tested, the Me2N group exerted the greatest effect on the asymmetric redn. of ketones, affording fairly good optical yields [PhCH(OH)Me, 43% ee (sic); PhCH(OH)Et, 52% ee, and PhCH(OH)Bu-t, 47% ee].

The presence of additives such as MeOCH<sub>2</sub>CH<sub>2</sub>OMe or Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub> in the reaction mixt. caused a dramatic decrease in the stereoselectivity, while that of MeSCH<sub>2</sub>CH<sub>2</sub>SMe did not. Chelate ring formation in the chiral hydride reagent is one of the essential factors for the high stereoselectivities obsd.

L3 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1977:36705 CAPLUS  
DN 86:36705  
TI Investigation of the sodium/lanthanum/ammonia system  
AU Jacobs, H.; Scholze, H.  
CS Inst. Anorg. Chem., Tech. Hochsch. Aachen, Aachen, Fed. Rep. Ger.  
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1976), 427(1), 8-16  
CODEN: ZAACAB; ISSN: 0044-2313  
DT Journal  
LA German  
AB Amides were prep'd. by the reaction of Na and La with ammonia. The ammonothermal synthesis was used starting with a molar ratio of the metals ranging from Na:La = 9:1 to 1:2 at NH<sub>3</sub> pressures from 3000 to 5000 atm and temps. from 250 to 500.degree.. Na<sub>3</sub>La(NH<sub>2</sub>)<sub>6</sub> was characterized by an x-ray single-crystal anal. The comp'd. has space group Fddd, with a 22.11 +- 0.01, b 11.15 +- 0.01, and c 7.375 +- 0.006 .ANG.; Z = 8. Beside this comp'd. and the binary amid another poorly crystd. comp'd. with a lower Na content may exist. The thermal degrdn. of the amides (Na:La = 0:1, and 1:1) led to 2 microcryst. ternary phases, an amide imide and an imide nitride; binary LaN and undecomposed NaNH<sub>2</sub> are the end products.

L3 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1975:557091 CAPLUS  
DN 83:157091  
TI Complex compounds of hydrazine with samarium and yttrium  
AU Aliev, R. Ya.; Musaev, D. B.  
CS Azerb. Gos. Pedagog. Inst. im. Lenina, Baku, USSR  
SO Doklady - Akademiya Nauk Azerbaidzhanskoi SSR (1975), 31(3), 27-30  
CODEN: DAZRA7; ISSN: 0002-3078  
DT Journal  
LA Russian  
AB YCl<sub>3</sub> reacted with N<sub>2</sub>H<sub>4</sub>.2HCl in H<sub>2</sub>O to give Y(N<sub>2</sub>H<sub>4</sub>)<sub>3</sub>Cl<sub>3</sub>.3H<sub>2</sub>O. [Y(N<sub>2</sub>H<sub>4</sub>)<sub>6</sub>]<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>.4H<sub>2</sub>O, [Y(N<sub>2</sub>H<sub>4</sub>)<sub>6</sub>](ClO<sub>4</sub>)<sub>3</sub>.2H<sub>2</sub>O, [Sm(N<sub>2</sub>H<sub>4</sub>)<sub>3</sub>Cl<sub>3</sub>].2H<sub>2</sub>O, and [Sm(N<sub>2</sub>H<sub>4</sub>)<sub>6</sub>](ClO<sub>4</sub>)<sub>3</sub>.4H<sub>2</sub>O were also prep'd.

L3 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1975:38041 CAPLUS  
DN 82:38041  
TI Amidometallates of lanthanum and gadolinium and the reaction of lanthanum, gadolinium, and scandium with ammonia  
AU Linde, G.; Juza, R.  
CS Inst. Anorg. Chem., Christian-Albrechts-Univ., Kiel, Fed. Rep. Ger.  
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1974), 409(2), 191-8  
CODEN: ZAACAB; ISSN: 0044-2313  
DT Journal  
LA English  
AB Na<sub>3</sub>[La(NH<sub>2</sub>)<sub>6</sub>], Na<sub>3</sub>[Gd(NH<sub>2</sub>)<sub>6</sub>], and Na[Gd(NH<sub>2</sub>)<sub>4</sub>] were prep'd. by reaction of Na and La or Gd with NH<sub>3</sub> in a high-temp. autoclave, whereas the analogous Sc compds. were not obtained. Corresponding expts. with NH<sub>4</sub>I gave only La(NH<sub>2</sub>)<sub>3</sub>, GdN, and ScH<sub>2</sub>. Na<sub>3</sub>[La(NH<sub>2</sub>)<sub>6</sub>] and Na<sub>3</sub>-[Gd(NH<sub>2</sub>)<sub>6</sub>] are isotypic with Na<sub>3</sub>[Y(NH<sub>2</sub>)<sub>6</sub>], and Na[Gd(NH<sub>2</sub>)<sub>4</sub>] is isotypic with Na[Y(NH<sub>2</sub>)<sub>4</sub>] as shown by x-ray studies. The lattice parameters are reported. The thermal behavior of the prep'd. compds. were characterized by DTA and tensimetry.

L3 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1975:36825 CAPLUS  
DN 82:36825  
TI IR spectra of amides and imides of divalent and trivalent metals

AU Linde, G.; Juza, R.  
CS Inst. Anorg. Chem., Christian-Albrechts-Univ., Kiel, Fed. Rep. Ger.  
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1974), 409(2),  
199-214  
CODEN: ZAACAB; ISSN: 0044-2313

DT Journal QD1.24  
LA German  
AB The ir spectra of  $M(NH_2)_2$  and  $M(NH)$  ( $M = Be, Mg, Ca, Sr, \text{ and } Ba$ ),  $M(NH_2)_3$  ( $M = La, Y, \text{ and } Yb$ ),  $Na[M(NH_2)_4]$  ( $M = Gd, Y, Yb$ ), and  $Na_3[M(NH_2)_6]$  ( $M = La, Gd, Y, \text{ and } Yb$ ) are reported. Solid solns. prepd. by thermal decompn. of amides were studied. The valence force const. of the NH bond increases with decreasing radius and increasing elec. charge of the cation, depending on the polarizing action of the cation. In the amidometallates the  $Na^+$  ions degrade the force const. and the polarizing action of the central ion.

L3 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1974:544844 CAPLUS  
DN 81:144844  
TI Reaction of some yttrium salts with hydrazine  
AU Aliev, R. Ya.; Kuliev, A. D.  
CS Azerb. Pedagog. Inst. im. Lenina, Baku, USSR  
SO Zhurnal Obshchei Khimii (1974), 44(9), 1852-4  
CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal  
LA Russian  
AB Satd.  $N_2H_4 \cdot HCl$  solns. were added to  $YCl_3$  solns. in a 3:1 molar ratio to give  $[Y(N_2H_4)_3Cl_3] \cdot 3H_2O$ .  $[Y(N_2H_4)_3X_3] \cdot nH_2O$  ( $x = Br-, I-, F-, NO_3-$ ),  $[Y(N_2H_4)_6] \cdot 2(SO_4) \cdot 3 \cdot 4H_2O$ , and  $[Y(N_2H_4)_6] \cdot (ClO_4) \cdot 3 \cdot 2H_2O$  were also prepd.

L3 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1973:436004 CAPLUS  
DN 79:36004  
TI Structure of sodium, potassium, or cesium tetraamidoaluminate. Structure of sodium tetraamidogallate  
AU Molinie, Philippe; Brec, Raymond; Rouxel, Jean; Herpin, Paulette  
CS Lab. Chim. Miner. A, U.E.R. Chim., Nantes, Fr.  
SO Acta Crystallographica, Section B: Structural Crystallography and Crystal Chemistry (1973), 29(5), 925-34  
CODEN: ACBCAR; ISSN: 0567-7408

DT Journal  
LA French  
AB Addnl. data considered in abstracting and indexing are available from a source cited in the original document. Alkali metal tetraamidoaluminate and tetraamidogallate hygroscopic crystals are prepd. by ammonothermal synthesis. In the series with formula  $MA(NH_2)_4$ , all the structures are built up of  $Al(NH_2)_4^-$  tetrahedra and  $M^+$  ions ( $M = Na, K, Cs$ ). The tetraamidogallate  $NaGa(NH_2)_4$  is isotypic with  $NaAl(NH_2)_4$ . The refinement of the positions of the H atoms in these structures was carried out: it led to acceptable results for the N-H lengths and H-N-H angles.

L3 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1968:510926 CAPLUS  
DN 69:110926  
TI Preparation and x-ray crystallographic study of the potassium, rubidium, and cesium amidoaluminates. Family of alkaline aminoaluminates  $MA(NH_2)_4$   
AU Brec, Raymond; Rouxel, Jean  
CS Lab. Chim. Miner. A, Fac. Sci. Nantes, Nantes, Fr.  
SO Bulletin de la Societe Chimique de France (1968), (7), 2721-6  
CODEN: BSCFAS; ISSN: 0037-8968

DT Journal  
LA French  
AB The title compds. were prepd. by the interaction of excess Al with the alkali metals dissolved in liq.  $NH_3$ . The operation was carried out in a

sealed T-shaped Pyrex glass tube at room temp. Then, the excess Al was removed by tilting the tube, and the excess NH<sub>3</sub> by thermal gradient evapn. X-ray crystallographic data of these compds. were obtained. KAl(NH<sub>2</sub>)<sub>4</sub> is orthorhombic at room temp. (.beta.-form) and hexagonal at <0.degree. (.alpha.-form); the lattice parameters of the .beta.-form are a 11.37, b 8.85, c 6.146 A., the space group is Pnma, the d. (exptl.) 1.40, and Z = 4. CsAl(NH<sub>2</sub>)<sub>4</sub> is tetragonal with a 7.57, and c 5.36 A.; the d. (exptl.) is 2.20, and Z = 2. RbAl(NH<sub>2</sub>)<sub>4</sub> is probably orthorhombic. These amidoaluminates are converted on heating into imidoaluminates.

=>

(FILE 'HOME' ENTERED AT 09:10:37 ON 26 JAN 2004)

FILE 'REGISTRY' ENTERED AT 09:10:51 ON 26 JAN 2004

L1 STRUCTURE UPLOADED

L2 10 S L1

FILE 'CAPLUS' ENTERED AT 09:11:27 ON 26 JAN 2004

L3 11 S L2

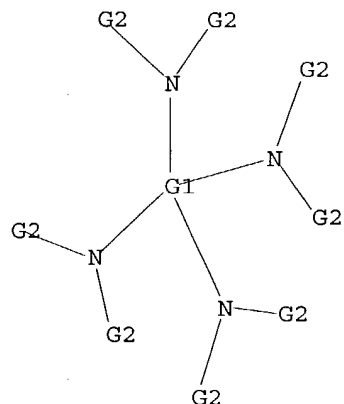
FILE 'REGISTRY' ENTERED AT 09:14:32 ON 26 JAN 2004

L4 STRUCTURE UPLOADED

=> d l4

L4 HAS NO ANSWERS

L4 STR



G1 Hf,Ti,Zr

G2 Cb,Ak,H,CF3,CCl3,CBr3

Structure attributes must be viewed using STN Express query preparation.

=> s l4

SAMPLE SEARCH INITIATED 09:20:08 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 431 TO ITERATE

100.0% PROCESSED 431 ITERATIONS

9 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 7375 TO 9865

PROJECTED ANSWERS: 9 TO 360

L5 9 SEA SSS SAM L4

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

ENTRY

TOTAL

SESSION

FULL ESTIMATED COST

4.20

34.97

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

ENTRY

TOTAL

SESSION

CA SUBSCRIBER PRICE

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-7.62

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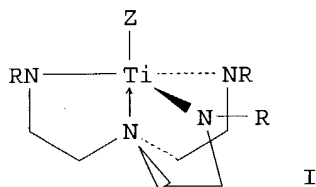
FILE COVERS 1907 - 26 Jan 2004 VOL 140 ISS 5  
FILE LAST UPDATED: 23 Jan 2004 (20040123/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 15  
L6 6 L5

=> d 1-6 bib abs

L6 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1997:80096 CAPLUS  
DN 126:74989  
TI Molecular Structures for Azatitanatranes  
AU Rioux, Frank; Schmidt, Michael W.; Gordon, Mark S.  
CS Department of Chemistry and Ames Laboratory-USDOE, Iowa State University, Ames, IA, 50011, USA  
SO Organometallics (1997), 16(2), 158-162  
CODEN: ORGND7; ISSN: 0276-7333  
PB American Chemical Society  
DT Journal  
LA English  
GI



AB Ab initio geometry optimizations for azatitanatranes I where Z = CH<sub>3</sub>, NH<sub>2</sub>, OH, F, and NMe<sub>2</sub> and R = H and CH<sub>3</sub>, were performed using a triple- $\zeta$  basis set for Ti and a 6-31G(d) basis set for all other atoms. An anal. of the transannular Ti-N interaction indicates that it is significantly stronger than that found in the analogous azasilatranes. There is reasonable agreement between the calcd. structure and the available x-ray data for Z = NMe<sub>2</sub> and R = CH<sub>3</sub>. Of special significance in this calcn. is the fact that theory correctly predicts that the axial Ti-N bond is shorter than the equatorial Ti-N bonds.

L6 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1988:529198 CAPLUS



DN 109:129198  
 TI Transition metal activated organic compounds. 26. Higher thermostability and selectivity of Koebrich reagents by transmetalation  
 AU Kauffmann, Thomas; Fobker, Rolf; Wensing, Michael  
 CS Org.-Chem. Inst., Univ. Muenster, Muenster, D-4400, Fed. Rep. Ger.  
 SO Angewandte Chemie (1988), 100(7), 1005-6  
 CODEN: ANCEAD; ISSN: 0044-8249  
 DT Journal  
 LA German  
 OS CASREACT 109:129198  
 AB Treating title reagents  $X_2CHLi$  [ $X = Cl$  (I), Br, iodo] or  $Cl_3CLi$  with transition-metal complexes, e.g.,  $Ti(OCHMe_2)_4$ , gave transmetalated products  $X_2CHTi(OCHMe_2)_4Li$  (same X) or  $CCl_3Ti(OCHMe_2)_4Li$ , which had greater thermal stability than the starting Koebrich reagents.  $Cl_2CHTi(OCHMe_2)_4Li$  (II),  $(Cl_2CH)_3MnLi$  (III), or  $Cl_2CHTi(OCHMe_2)_3$  (IV) showed high aldehyde selectivity in reaction with PhCHO-PhCOMe or 1-heptanal-Et<sub>2</sub>CO mixts., giving 46-81% HOCH<sub>2</sub>CHCl<sub>2</sub> ( $R = Ph$ , n-hexyl) and 0-4% HOCH<sub>2</sub>CHCl<sub>2</sub> ( $R_1 = Ph$ ,  $R_2 = Me$ ;  $R_1 = R_2 = Et$ ). I was much less selective. Treating MeCOCH<sub>2</sub>NMe<sub>2</sub> with II-IV gave 66-71%  $Cl_2CHCMe(OH)CH_2NMe_2$ .

L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1988:160313 CAPLUS  
 DN 108:160313  
 TI Some oxocation complexes of N,N'-dimethylhydrazine  
 AU Agarwal, R. K.; Gupta, S. K.; Kapur, Veena; Srivastava, A. K.  
 CS Dep. Chem., Lajpat Rai Post Grad. Coll., Sahibabad, 201005, India  
 SO Proceedings of the National Academy of Sciences, India, Section A: Physical Sciences (1987), 57(1), 20-4  
 CODEN: PAIAA3; ISSN: 0369-8203  
 DT Journal  
 LA English  
 AB  $MON(Me_2hy)mX_2$  ( $M = V, Zr$  or  $U$ ;  $n = 1$  or  $2$ ;  $m = 2$  or  $4$ ;  $X = Cl, Br, I, NCS, NO_3, ClO_4, SO_4$  or  $OAc$ ;  $Me_2hy = MeNHNHMe$ ) were prepd. and characterized by elemental analyses, magnetic susceptibility, electronic and IR spectra. The vanadyl complexes exhibit subnormal magnetic moments (1.27-1.47 .mu.B) possibly because of exchange interaction between vanadyl ions.

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1982:192324 CAPLUS  
 DN 96:192324  
 TI Complexes of hydrazine and substituted hydrazines with some oxocations  
 AU Srivastava, Anant K.; Agarwal, Ram K.; Srivastava, Mahesh; Kapur, Veena; Sharma, Sunita; Jain, Prakash C.  
 CS Dep. Chem., Meerut Coll., Meerut, 250001, India  
 SO Transition Metal Chemistry (Dordrecht, Netherlands) (1982), 7(1), 41-4  
 CODEN: TMCHDN; ISSN: 0340-4285  
 DT Journal  
 LA English  
 AB Several new polymeric complexes of general compn.  $MONL_4X_2$  ( $M = V, Zr$  and  $U$ ;  $n = 1$  or  $2$ ;  $X = Cl, Br, I, NO_3$  and  $NCS$ ;  $L = N_2H_4, PhNHNH_2$  and  $Me_2NNH_2$ ) were synthesized and characterized by elemental anal., DTA and by magnetic measurements, electronic and IR spectra. The vanadyl(IV) complexes exhibit subnormal magnetic moments (1.26-1.36 .mu.B) possibly because of exchange interaction between V(IV) ions. The thermal stability of hydrazine complexes fall in the order:  $Cl > Br > NCS > I$ . The M-N bond strength, as revealed by .nu.(M-N), decreases as:  $Me_2NNH_2 > N_2H_4 > PhNHNH_2$ .

L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1975:105791 CAPLUS  
 DN 82:105791  
 TI Chemistry of N-aryl substituted metal amides. III. N,N-Disubstituted zirconium amides

AU Froehlich, Hans O.; Keiser, Stephan  
 CS Sekt. Chem., Friedrich-Schiller-Univ., Jena, Ger. Dem. Rep.  
 SO Zeitschrift fuer Chemie (1974), 14(12), 486  
 CODEN: ZECEAL; ISSN: 0044-2402  
 DT Journal  
 LA German  
 AB The reaction of KNPh<sub>2</sub>.3diox (diox = dioxane) with ZrCl<sub>4</sub>.2THF in THF at molar ratio 4:1 and 3:1 gave Zr(NPh<sub>2</sub>)<sub>4</sub>.diox. The reaction of ZrCl<sub>4</sub>.2THF with KPhNCH<sub>2</sub>CH<sub>2</sub>NPhK.2diox at molar ratio 1:2 and 1:1 gave solvates of Zr(PhNCH<sub>2</sub>CH<sub>2</sub>NPh)<sub>2</sub> and ZrCl<sub>2</sub>(PhNCH<sub>2</sub>CH<sub>2</sub>NPh), resp.

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1962:13065 CAPLUS  
 DN 56:13065  
 OREF 56:2464g-i,2465a  
 TI Amino derivatives of zirconium tetrabromide  
 AU Prasad, I. Sarju; Sahney, Kanta  
 CS Hindu Univ., Banaras, India  
 SO Proceedings of the National Academy of Sciences, India (1960), Sect. A 29, 307-9  
 CODEN: NAIPAQ; ISSN: 0369-3236  
 DT Journal  
 LA Unavailable  
 AB cf. Fowles and Pollard, CA 48, 5011c. -Amine complexes of Zr(IV) were prepd. in EtOAc soln. from the amine and ZrBr<sub>4</sub>. The following Zr(amine)<sub>4</sub>Br<sub>4</sub> were prepd. (amine and color of complex given): aniline, gray; o-anisidine, ash color; p-anisidine, gray; o-phenetidine, brown; benzylamine, white; o-, m-, and p-toluidine, ash color, yellow, and amethyst, resp. Similarly, the following Zr(amine)<sub>2</sub>-Br<sub>4</sub> were prepd. (same data): .alpha.-naphthylamine, violet; .beta.-naphthylamine, ash color; o-tolidine, gray; o-dianisidine, gray; phenylhydrazine, brown; benzidine, gray; o- and p-phenylenediamine, brown and gray, resp. Almost all were insol. in EtOAc, Et<sub>2</sub>O, C<sub>6</sub>H<sub>6</sub> and sparingly sol. in alc. The phenylhydrazine and benzylamine compds. were sparingly sol. in C<sub>6</sub>H<sub>6</sub>. They were sol. in dil. acids, but decompd. in NaOH soln. The monoamine compds. hydrolyzed readily, but the diamine derivs. hydrolyzed slowly. All were stable up to 150.degree., but decompd. without melting at higher temp. [except the benzylamine (m. 214.degree.) and phenylhydrazine (m. 180.degree.) derivs.].

=>

=> d his

(FILE 'HOME' ENTERED AT 09:10:37 ON 26 JAN 2004)

FILE 'REGISTRY' ENTERED AT 09:10:51 ON 26 JAN 2004

L1 STRUCTURE UPLOADED

L2 10 S L1

FILE 'CAPLUS' ENTERED AT 09:11:27 ON 26 JAN 2004

L3 11 S L2

FILE 'REGISTRY' ENTERED AT 09:14:32 ON 26 JAN 2004

L4 STRUCTURE UPLOADED

L5 9 S L4

FILE 'CAPLUS' ENTERED AT 09:20:14 ON 26 JAN 2004

L6 6 S L5

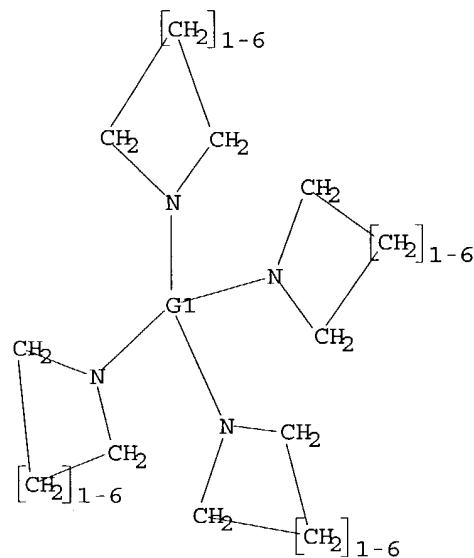
FILE 'REGISTRY' ENTERED AT 09:29:16 ON 26 JAN 2004

L7 STRUCTURE UPLOADED

=> d 17

L7 HAS NO ANSWERS

L7 STR



G1 Hf,Ti,Zr

G2 Cb,Ak,H,CF3,CCl3,CBr3

Structure attributes must be viewed using STN Express query preparation.

=> s 17

SAMPLE SEARCH INITIATED 09:29:48 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 31 TO ITERATE

100.0% PROCESSED 31 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 286 TO 954

PROJECTED ANSWERS:

0 TO

0

L8

0 SEA SSS SAM L7

=>

(FILE 'HOME' ENTERED AT 09:10:37 ON 26 JAN 2004)

FILE 'REGISTRY' ENTERED AT 09:10:51 ON 26 JAN 2004

L1 STRUCTURE UPLOADED

L2 10 S L1

FILE 'CAPLUS' ENTERED AT 09:11:27 ON 26 JAN 2004

L3 11 S L2

FILE 'REGISTRY' ENTERED AT 09:14:32 ON 26 JAN 2004

L4 STRUCTURE UPLOADED

L5 9 S L4

FILE 'CAPLUS' ENTERED AT 09:20:14 ON 26 JAN 2004

L6 6 S L5

FILE 'REGISTRY' ENTERED AT 09:29:16 ON 26 JAN 2004

L7 STRUCTURE UPLOADED

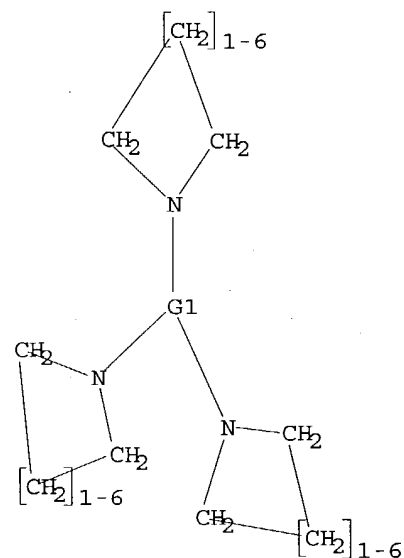
L8 0 S L7

L9 STRUCTURE UPLOADED

=> d 19

L9 HAS NO ANSWERS

L9 STR



G1 Al,La,Y

G2 Cb,Ak,H,CF3,CCl3,CBr3

Structure attributes must be viewed using STN Express query preparation.

=> s 19

SAMPLE SEARCH INITIATED 09:32:47 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 60 TO ITERATE

100.0% PROCESSED 60 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.02

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 736 TO 1664  
PROJECTED ANSWERS: 0 TO 0

L10 0 SEA SSS SAM L9

=> s l9 full

FULL SEARCH INITIATED 09:33:02 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 1121 TO ITERATE

100.0% PROCESSED 1121 ITERATIONS 14 ANSWERS  
SEARCH TIME: 00.00.01

L11 14 SEA SSS FUL L9

=> fil caplus

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-11.78

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FILE LAST UPDATED: 23 Jan 2004 (20040123/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l11

L12 12 L11

=> d 1-12 bib abs

L12 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:235302 CAPLUS  
DN 139:158939  
TI Synthesis of amino- and amido-aluminium derivatives and investigation of their dynamics in solution  
AU Passarelli, Vincenzo; Carta, Giovanni; Rossetto, Gilberto; Zanella, Pierino  
CS ICIS, CNR, Padua, Italy  
SO Dalton Transactions (2003), (7), 1284-1291  
CODEN: DTARAF; ISSN: 1477-9226  
PB Royal Society of Chemistry  
DT Journal  
LA English

AB The salts  $\text{Li}[\text{Al}(\text{C}_4\text{H}_8\text{N})_4] \cdot n\text{C}_4\text{H}_8\text{NH}$  ( $n = 1, 2$ ;  $\text{C}_4\text{H}_8\text{NH} = \text{pyrrolidine}$ ) were prepd. and characterized in soln. by  $^1\text{H}$ -,  $^{13}\text{C}$ -,  $^7\text{Li}$ - and  $^{27}\text{Al}$ -NMR spectroscopy. Their reaction with  $\text{AlCl}_3$  ( $\text{Cl}/\text{Li}$  molar ratio = 3) affords the binary amido deriv.  $[\text{Al}(\text{C}_4\text{H}_8\text{N})_3]_2$ , which, on turn, is reactive towards  $\text{AlX}_3$ , yielding  $[\text{AlX}_2(\text{C}_4\text{H}_8\text{N})]_2$  ( $\text{X} = \text{Cl}, \text{CH}_3$ ). Binuclear  $[\text{AlY}_2(\text{C}_4\text{H}_8\text{N})]_2$  ( $\text{Y} = \text{Cl}, \text{CH}_3, \text{C}_4\text{H}_8\text{N}$ ) react with  $[\text{NH}_2\text{Et}_2]\text{Cl}$  affording the amine complexes  $\text{AlY}_2\text{Cl}(\text{C}_4\text{H}_8\text{NH})_n$  ( $\text{Y} = \text{CH}_3, n = 1$ ;  $\text{Y} = \text{Cl}, n = 1, 2$ ). Alternatively, the monochloro species  $\text{AlMe}_2\text{Cl}(\text{C}_4\text{H}_8\text{NH})$  results from the reaction of  $\text{AlMe}_3(\text{C}_4\text{H}_8\text{NH})$  and  $\text{AlCl}_3(\text{C}_4\text{H}_8\text{NH})$  ( $\text{CH}_3/\text{Cl}$  molar ratio = 2). The dichloro-Me deriv.  $\text{AlMeCl}_2(\text{C}_4\text{H}_8\text{NH})$  was obtained by reacting  $\text{AlMe}_3(\text{C}_4\text{H}_8\text{NH})$  and  $\text{AlCl}_3(\text{C}_4\text{H}_8\text{NH})$  ( $\text{Cl}/\text{CH}_3$  molar ratio = 2). The Lewis adducts  $\text{AlCl}_3(\text{amine})_n$  (amine = pyrrolidine,  $n = 1, 2$ ; amine =  $\text{N}, \text{N}, \text{N}'$ -trimethylpropanediamine,  $n = 1$ ) were isolated when  $\text{AlCl}_3$  was contacted with the stoichiometric amt. of the amine. At variance with  $\text{N}, \text{N}, \text{N}'$ -trimethylpropanediamine,  $\text{N}, \text{N}, \text{N}'$ -trimethylethylenediamine and  $\text{N}, \text{N}, \text{N}', \text{N}'$ -tetramethylethylenediamine react with  $\text{AlCl}_3$  yielding the salt derivs.  $[\text{AlCl}_2(\text{amine})_2][\text{AlCl}_4]$ . The dynamic processes of the coordinated amine ligands of  $\text{AlCl}_3(\text{amine})_n$  (amine = pyrrolidine,  $n = 1, 2$ ; amine =  $\text{N}, \text{N}, \text{N}'$ -trimethylpropanediamine,  $n = 1$ ) and  $[\text{AlCl}_2(\text{amine})_2][\text{AlCl}_4]$  (amine =  $\text{N}, \text{N}, \text{N}', \text{N}'$ -tetramethylethylenediamine) were studied in soln. by NMR spectroscopy.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:607984 CAPLUS

DN 127:277813

TI Selective reduction by lithium bis- or tris(dialkylamino)aluminum hydrides. VIII. Reaction of lithium tripiperidinoaluminum hydride in tetrahydrofuran with selective organic compounds containing representative functional groups

AU Cha, Jin Soon; Lee, Jae Cheol; Ju, Young Chul

CS Department of Chemistry, Yeungnam University, Kyongsan, 712-749, S. Korea

SO Bulletin of the Korean Chemical Society (1997), 18(8), 890-895

CODEN: BKCSDE; ISSN: 0253-2964

PB Korean Chemical Society

DT Journal

LA English

AB The approx. rates and stoichiometry of the reaction of excess lithium tripiperidinoaluminum hydride (LTPDA), an alicyclic aminoaluminum hydride, with org. compds. contg. representative functional groups under standardized conditions (THF, 25.degree.) were examd. in order to define the reducing characteristics of the reagent for selective redns. The reducing ability of LTPDA was also compared with those of the parent lithium aluminum hydride (LAH) and lithium tris(diethylamino)aluminum hydride (LTDEA), a representative aliph. aminoaluminum hydride. In general, the reactivity of LTPDA toward org. functionalities is weaker than LTDEA and much weaker than LAH. LTPDA shows unique reducing characteristics. Thus, benzyl alc., phenol and thiols evolve a quant. amt. of hydrogen rapidly. The rate of hydrogen evolution of primary, secondary and tertiary alcs. is distinctive. LTPDA reduces aldehydes, ketones, esters, acid chlorides and epoxides readily to the corresponding alcs. Quinones, such as p-benzoquinone and anthraquinone, are reduced to the corresponding diols without hydrogen evolution. Tertiary amides and nitriles are also reduced readily to the corresponding amines. The reagent reduces nitro compds. and azobenzene to the amine stages. Disulfides are reduced to thiols and sulfoxides and sulfones are converted to sulfides. Addnl., the reagent appears to be a good partial reducing agent to convert primary carboxamides into the corresponding aldehydes.

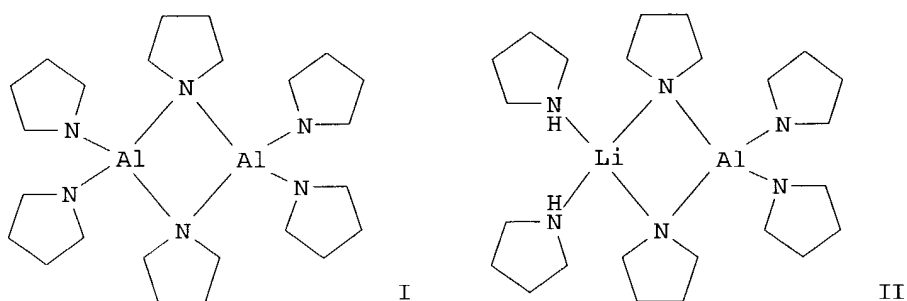
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:60715 CAPLUS

DN 124:248645

TI Preparation and structures of some new pyrrolidinido- and piperidinido  
 alanes and aluminates  
 AU Andrianarison, Mbolatiana M.; Ellerby, Miles C.; Gorrell, Ian B.;  
 Hitchcock, Peter B.; Smith, J. David; Stanley, David R.  
 CS Sch. Chem. Mol. Sci., Univ. Sussex, Brighton, BN1 9QJ, UK  
 SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry  
 (1996), (2), 211-17  
 CODEN: JCOTBI; ISSN: 0300-9246  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English  
 GI



AB Alane and lithium tetrahydroaluminate each reacted with an excess of  
 pyrrolidine or piperidine in THF to give the new dinuclear compds.  $(AlL_3)_2$   
 $[L = \text{pyrrolidino, piperidino}]$  and  $L'_2Li(\mu-L)_2AlL_2$   $[L = \text{pyrrolidino, } L' =$   
 $\text{THF or pyrrolidine; } L = \text{piperidino, } L' = \text{THF}]$ . The compds. were  
 characterized by elemental anal., multinuclear NMR spectroscopy, mass  
 spectrometry and x-ray crystallog. In  $(AlL_3)_2$   $[L = \text{pyrrolidino}]$  (I) which  
 contains an  $Al_2N_2$  ring, av. distances are  $Al-N(\text{terminal})$  1.797(2) and  
 $Al-N(\text{bridging})$  1.963(2) Å. Exocyclic  $N-Al-N$  angles are in the range  
 112.6-114.4°. The endocyclic  $N-Al-N$  angle is 86.69(9)°. and  
 $Al-N-Al$  is 93.31(9)°. The sums of the angles at the terminal  
 nitrogens are close to 360°. In  $L'_2Li(\mu-L)_2AlL_2$   $[L =$   
 $\text{pyrrolidino, } L' = \text{pyrrolidine}]$  (II), which contains an  $LiN_2Al$  ring,  
 distances are  $Al-N(\text{terminal})$  1.824(8),  $Al-N(\text{bridging})$  1.880(7),  
 $Li-N(\text{terminal})$  2.035(20) and  $Li-N(\text{bridging})$  2.149(20) Å. The sums of  
 the angles at terminal nitrogens are 349.1 and 355.4°. Ring angles  
 are  $N-Al-N$  100.0(3),  $Al-N-Li$  82.0(4) and  $N-Li-N$  84.2(5)°. In  
 $L'_2Li(\mu-L)_2AlL_2$   $[L = \text{piperidino, } L' = \text{THF}]$  av. distances are  
 $Al-N(\text{terminal})$  1.828(3),  $Al-N(\text{bridging})$  1.895(3),  $Li-O$  1.987(6) Å. and  
 $Li-N(\text{bridging})$  2.135(6) Å. The sums of the angles at terminal  
 nitrogens are 358.1 and 357.4°. Ring angles are  $N-Al-N$  100.69(13),  
 $Al-N-Li$  84.0(2) and  $N-Li-N$  86.2(2)°. Exchange between bridging and  
 terminal amido groups is slow on the NMR time-scale at 250 MHz in  $(AlL_3)_2$   
 but fast in  $L'_2Li(\mu-L)_2AlL_2$ . Sep. signals for axial and equatorial  
 protons are obsd. from cooled samples of  $(AlL_3)_2$   $[L = \text{piperidino}]$  and  
 $L'_2Li(\mu-L)_2AlL_2$   $[L = \text{piperidino, } L' = \text{THF}]$ .

L12 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:188673 CAPLUS  
 DN 122:104956  
 TI Transformation of primary carboxamides to aldehydes by sodium  
 tris(dialkylamino)aluminum hydrides  
 AU Cha, Jin Soon; Kim, Jong Mi; Jeoung, Min Kyoo  
 CS Dep. Chem., Yeungnam Univ., Kyongsan, 712-749, S. Korea  
 SO Bulletin of the Korean Chemical Society (1994), 15(9), 708-10  
 CODEN: BKCSDE; ISSN: 0253-2964  
 PB Korean Chemical Society



DT Journal  
 LA English  
 OS CASREACT 122:104956  
 AB Na(R<sub>2</sub>N)<sub>3</sub>AlH (R = Et, Bu, piperidino) mediated redn. of carboxamides to aldehydes in THF is described. Thus, redn. of benzamide with Na(Et<sub>2</sub>N)<sub>3</sub>AlH in THF at 25.degree. gave 95% benzaldehyde.

L12 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1993:224272 CAPLUS  
 DN 118:224272  
 TI Preparation of lithium (dialkylamido)aluminum hydrides, a new class of reducing agents  
 AU Cha, Jin Soon; Lee, Jae Cheol; Kim, Jong Mi; Jeong, Seung Won; Park, Ki Suk; Lee, Sung Eun; Lee, Heung See  
 CS Dep. Chem., Yeungnam Univ., Kyongsan, 712-749, S. Korea  
 SO Bulletin of the Korean Chemical Society (1992), 13(6), 581-4  
 CODEN: BKCSDE; ISSN: 0253-2964

DT Journal  
 LA English  
 AB The reaction of LiAlH<sub>4</sub> with dialkylamines (R<sub>2</sub>NH) provides Li(R<sub>2</sub>NnAlH<sub>4-n</sub>) (n = 2, 3), depending upon the steric bulk of the alkyl groups of the dialkylamine. In cases involving a less hindered dialkylamine such as Et<sub>2</sub>NH, Bu<sub>2</sub>NH, di-n-hexylamine, pyrrolidine, piperidine, morpholine, and N-methylpiperazine, the corresponding trisubstituted derivs. are readily produced at 25.degree.. In cases involving a more hindered dialkylamine such as (Me<sub>2</sub>CH)<sub>2</sub>NH, dicyclohexylamine, and Ph<sub>2</sub>NH, the reaction at 50.degree. affords the corresponding disubstituted derivs. cleanly. In the case of a moderately hindered dialkylamine such as diisobutylamine, a disubstituted deriv. is produced exclusively at 25.degree., and a trisubstituted one under reflux. These dialkylamidoaluminum hydrides examd. are stable to disproportionation.

L12 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1993:146936 CAPLUS  
 DN 118:146936  
 TI Transformation of carboxylic acids and their derivatives into aldehydes by lithium tris(dialkylamino)aluminum hydrides  
 AU Cha, Jin Soon  
 CS Dep. Chem., Yeungnam Univ., Kyongsan, 712-749, S. Korea  
 SO Bulletin of the Korean Chemical Society (1992), 13(6), 670-6  
 CODEN: BKCSDE; ISSN: 0253-2964

DT Journal  
 LA English  
 AB A systematic study of the partial redn. of carboxylic acids and their derivs. to the corresponding aldehydes with lithium tris(dialkylamino)aluminum hydrides under practical conditions has been carried out. The diethylamino-substituted deriv. of lithium aluminum hydride, lithium tris(diethylamino)aluminum hydride (LTDEA), shows quite general applicability in the conversion of carboxylic acids, carboxylic esters, and primary carboxamides to the corresponding aldehydes. Lithium tripiperidinoaluminum hydride (LTPDA) also appears to be a reagent of choice for such partial transformation of primary carboxamides. In addn., both LTDEA and LTPDA reduce tertiary carboxamides to aldehydes in high yields. Finally, lithium tris(dihexylamino)aluminum hydride (LTDHA) is capable of achieving the chemoselective redn. of arom. nitriles to aldehydes in the presence of aliph. nitriles under practical conditions.

L12 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1992:128286 CAPLUS  
 DN 116:128286  
 TI Selective reduction by lithium bis- or tris(dialkylamino)aluminum hydrides. IV. Transformation of primary carboxamides to aldehydes by lithium tripiperidinoaluminum hydride  
 AU Cha, Jin Soon; Lee, Jae Cheol; Lee, Heung Soo; Lee, Sung Eun

CS Dep. Chem., Yeungnam Univ., Kyongsan, 712-749, S. Korea  
 SO Bulletin of the Korean Chemical Society (1991), 12(6), 598  
 CODEN: BKCSDE; ISSN: 0253-2964  
 DT Journal  
 LA English  
 OS CASREACT 116:128286  
 AB Primary carboxamides are reduced by lithium tripiperidinoaluminum hydride, readily prepd. from LiAlH<sub>4</sub> and 3 equiv of piperidine, in THF to yield aldehydes. E.g., benzamide in THF is added to a soln. of lithium tripiperidinoaluminum to give a 92% yield of benzaldehyde.

L12 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1989:134677 CAPLUS  
 DN 110:134677  
 TI Reactions of secondary amines with lithium tetrahydridoaluminate  
 AU Linti, Gerald; Noeth, Heinrich; Rahm, Peter  
 CS Inst. Anorg. Chem., Ludwig-Maximilians-Univ., Munich, D-8000/2, Fed. Rep. Ger.  
 SO Zeitschrift fuer Naturforschung, B: Chemical Sciences (1988), 43(9), 1101-12  
 CODEN: ZNBSEN; ISSN: 0932-0776  
 DT Journal  
 LA German  
 OS CASREACT 110:134677  
 AB Reactions of Et<sub>2</sub>NH, (Me<sub>2</sub>CH)<sub>2</sub>NH, and 2,2,6,6-tetramethylpiperidine with LiAlH<sub>4</sub> in various ethers have been studied. Only two well-defined products result from Et<sub>2</sub>NH, namely LiAlH(NEt<sub>2</sub>)<sub>3</sub> and LiAl(NEt<sub>2</sub>)<sub>4</sub>. If molar ratios of Et<sub>2</sub>NH:LiAlH<sub>4</sub> < 3:1 are employed all compds. of the series LiAlH<sub>4</sub>-n(NEt<sub>2</sub>)<sub>n</sub> (I, n = 0, 1, 2, 3) are present in solns. of THF and diglyme. In Et<sub>2</sub>O insol. materials consisting predominantly of I and, presumably, small quantities of Li<sub>3</sub>AlH<sub>6</sub> are also formed. At ambient temp. (Me<sub>2</sub>CH)<sub>2</sub>NH reacts slowly with LiAlH<sub>4</sub>, and LiAlH<sub>2</sub>[N(CHMe<sub>2</sub>)<sub>2</sub>]<sub>2</sub> can be isolated as a well-defined substitution product. 2,2,6,6-Tetramethylpiperidine (R = H) replaces only a single hydride from LiAlH<sub>4</sub> with formation of LiAlH<sub>3</sub>R. The structure of LiAlH(NEt<sub>2</sub>)<sub>3</sub> has been detd. by x-ray anal. The compd. contains chains of AlHN<sub>3</sub> and LiHN<sub>3</sub> tetrahedra linked through common edges.

L12 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1971:76818 CAPLUS  
 DN 74:76818  
 TI Poly(methyleneglutaronitrile)  
 IN Jo, Yasushi; Kurihara, Seiki  
 PA Mitsubishi Rayon Co., Ltd.  
 SO Jpn. Tokkyo Koho, 5 pp.  
 CODEN: JAXXAD  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 45038548	B4	19701205	JP	19680622
GI	For diagram(s), see printed CA Issue.				
AB	White polymers of methyleneglutaronitrile (I) or copolymers of I and acrylonitrile, useful for prepg. fibers or films, are prepd. by using organometal catalysts, such as Li ethyltripiperidinoaluminate (II), Li (isopropylthio)triethylaluminate, or Li pyrrolidinotri-ethylaluminate. Thus, 20 ml I was added dropwise at -50.degree. to 60 ml HCONMe <sub>2</sub> , toluene contg. 6 ml II added, and the mixt. polymd. for 2.5 hr to give white poly(methyleneglutaronitrile) in 65% yield (reduced viscosity 0.78 at 30.degree. in 0.1% HCONMe <sub>2</sub> soln.).				

L12 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1971:54391 CAPLUS

DN 74:54391  
 TI Methyleneglutaronitrile polymerization  
 IN Jo, Yasushi; Kurihara, Seiki  
 PA Mitsubishi Rayon Co., Ltd.  
 SO Jpn. Tokkyo Koho, 5 pp.  
 CODEN: JAXXAD  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 45035555	B4	19701113	JP	19670804
AB	Org. metal compds. such as EtMgAlEt <sub>4</sub> (I), Mg(AlEt <sub>4</sub> ) <sub>2</sub> , Mg bis-[(diethyl)(piperidino)aluminat], etc. are used as catalysts to give methyleneglutaronitrile (II) polymers or copolymers of II useful for moldings, paints, and fibers. For example, 60 ml DMF is mixed with a toluene soln. contg. 6 mmoles I, 20 ml II added dropwise at -50.degree., and the mixt. polymd. 3 hr to give 96% poly(methyleneglutaronitrile).				

L12 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1965:431768 CAPLUS  
 DN 63:31768  
 OREF 63:5665c-e  
 TI Preparation of complex aluminum acetylides from complex amides of aluminum and .alpha.-acetylenes  
 AU Zakharkin, L. I.; Sorokina, L. P.; Ivanov, L. L.  
 CS Inst. Heteroorg. Compds., Moscow  
 SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1965), (1), 180-2  
 CODEN: IASKA6; ISSN: 0002-3353  
 DT Journal  
 LA Russian  
 AB To 0.8064 g. NaAlH<sub>4</sub> in tetrahydrofuran (THF) was added at -20.degree. 16 ml. Me<sub>2</sub>NH, and the mixt. warmed to room temp. to give H; after concn. in vacuo the residue was dild. with hexane and gave 80% NaAl(NMe<sub>2</sub>)<sub>4</sub>, does not m. 250.degree.. Similar reaction with piperidine gave 85% NaAl(NC<sub>5</sub>H<sub>10</sub>)<sub>4</sub>, decompd. 241-2.5.degree., but this required refluxing in THF .apprx.1 hr. to complete. Et<sub>2</sub>NH similarly gave 88% NaAl(NEt<sub>2</sub>)<sub>4</sub>, m. 188-91.degree.. Reaction of LiAlH<sub>4</sub> and Me<sub>2</sub>NH at -20.degree. in THF followed by warming to room temp. and heating the crude product with BuC.tplbond.CH in THF 2 hrs., followed by similar heating with BzH 2 hrs. gave after an aq. treatment 70% 1-phenyl-2-heptyn-1-ol, b1 108-10.degree., n<sub>D</sub>20 1.5280. Similarly, NaAlH<sub>4</sub>, Me<sub>2</sub>NH, PhC.tplbond.CH, and BzH gave 70% 1,3-diphenyl-2-propyn-1-ol, b2 173-4.degree., 1.6170; NaAlH<sub>4</sub>, piperidine, PhC.tplbond.CH, and BzH gave a 72% yield. LiAlH<sub>4</sub>, Et<sub>2</sub>NH, PhC.tplbond.CH, and BzH gave a 74% yield. Evidently compds. of general type MAlH<sub>3</sub>(C.tplbond.CR), where M = metal, were intermediates in these reactions.

L12 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1963:419689 CAPLUS  
 DN 59:19689  
 OREF 59:3513g-h,3514a  
 TI Lewis acid-base titrations employing megacycle-frequency oscillators. III. Preparation, isolation, and characterization of some adducts predicted from titration curves  
 AU Hitchcock, Eldon T.; Elving, P. J.  
 CS Univ. of Michigan, Ann Arbor  
 SO Analytica Chimica Acta (1963), 28, 417-25  
 CODEN: ACACAM; ISSN: 0003-2670  
 DT Journal  
 LA English  
 AB cf. CA 59, 28g. White solid insol. adducts of SnCl<sub>4</sub> and 13 O bases (Et<sub>2</sub>O (I), Bu<sub>2</sub>O (II), tetrahydrofuran (III), p-dioxane (IV), MeOH (V), EtOH (VI), PrOH (VII), iso-PrOH (VIII), BuOH (IX), Me<sub>3</sub>COH (X), H<sub>2</sub>O (XI), Me<sub>2</sub>CO

(XII), or cyclohexanone (XIII)) were prepd. by addn. of an O base to  $\text{SnCl}_4$  in n-C<sub>7</sub>H<sub>16</sub> or C<sub>6</sub>H<sub>6</sub> soln., filtered, washed with solvent, air-dried, and characterized by m.p. and analysis. At 25.degree., I-III, V-IX, and XI-XIII form  $\text{SnCl}_4$  (base)<sub>2</sub> adducts; IV gives a 1:1 molar ratio adduct; X forms  $\text{SnCl}_3[\text{OC}(\text{Me})_3]$ . Upon recrystn. from boiling solvent the resp. adducts of V-VII and IX lose a mol. of HCl, forming  $\text{SnCl}_3(\text{OR})$ . Roll compds. Insol.  $\text{AlCl}_3$ -N base adducts were prepd. in MeCN soln. with C<sub>5</sub>H<sub>5</sub>N, piperidine, and MeCN, forming resp.  $\text{AlCl}_3$ .base,  $\text{AlCl}_3(\text{base})_3$ , and  $\text{AlCl}_3(\text{base})_2$  adducts. 20 references.

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(FILE 'HOME' ENTERED AT 09:10:37 ON 26 JAN 2004)

FILE 'REGISTRY' ENTERED AT 09:10:51 ON 26 JAN 2004

L1 STRUCTURE UPLOADED

L2 10 S L1

FILE 'CAPLUS' ENTERED AT 09:11:27 ON 26 JAN 2004

L3 11 S L2

FILE 'REGISTRY' ENTERED AT 09:14:32 ON 26 JAN 2004

L4 STRUCTURE UPLOADED

L5 9 S L4

FILE 'CAPLUS' ENTERED AT 09:20:14 ON 26 JAN 2004

L6 6 S L5

FILE 'REGISTRY' ENTERED AT 09:29:16 ON 26 JAN 2004

L7 STRUCTURE UPLOADED

L8 0 S L7

L9 STRUCTURE UPLOADED

L10 0 S L9

L11 14 S L9 FULL

FILE 'CAPLUS' ENTERED AT 09:33:17 ON 26 JAN 2004

L12 12 S L11

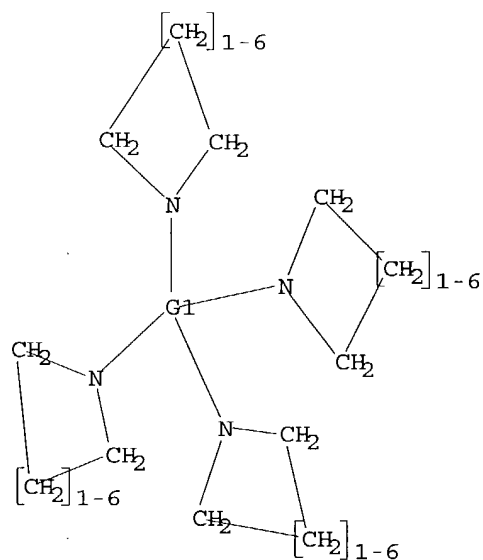
FILE 'REGISTRY' ENTERED AT 09:39:53 ON 26 JAN 2004

L13 STRUCTURE UPLOADED

=> d l13

L13 HAS NO ANSWERS

L13 STR



G1 Hf,Ti,Zr

G2 Cb,Ak,H,CF3,CCl3,CBr3

Structure attributes must be viewed using STN Express query preparation.

=> s l13 full

FULL SEARCH INITIATED 09:40:28 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 731 TO ITERATE

100.0% PROCESSED 731 ITERATIONS  
SEARCH TIME: 00.00.01

0 ANSWERS

L14 0 SEA SSS FUL L13

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